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Climatological Observers' Newsletter

- for
England &
Wales.

The Met. Office



CLIMATOLOGICAL OBSERVERS' NEWSLETTER
FOR
ENGLAND AND WALES

ISSUE NO. 22

FEBRUARY 1993

Met. O (OP)1a
Observation Provision Branch
Room 105
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Berkshire
RG12 2SZ

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EDITORIAL

Welcome, once again, to your Newsletter. This year we have a selection of articles ranging from a history of the Stephenson's screen, by Mike Weston, Head of our section, through a history of weather recording at Bramham by David Hardy, to praise for the Climatological Observers' Course from Mr Roberts at Halesowen. Several stations have sent us their weather summaries for 1992.

At the moment I'm trying to write some instructions to make life easier for our new recruits. If any of you have hints or tips, or if there is anything you would have liked to have been told at the beginning (apart from "don't do it!") please tell me so I can pass on the gems.

I hope you all received your copy of the "Met. Office Annual Review". If you wish to be sent future issues please contact me or George.

If any of you are still missing Monthly Weather Reports for 1991/2 let me know and I'll send photocopies of the missing months.

During 1993 we should be "computerising" the information about your stations, some of you have requested a copy of the information and you will be sent this as soon as it is available. If anyone else wants a copy of their own station's details let me know and I'll add you to the list.

Yet again the "Powers" have failed to come up with a wallchart for 1993. I apologise to those of you who like to have them and can only hope that the strenuous efforts we make every year to convince said "Powers" to allow us a wallchart will, one day, bear fruit.

Well, we'll soon be into the inspection season and it looks as though George and I will be visiting even more stations than last year (approximately 95 this year after the 75 of last year). We look forward to seeing as many of you as we can although we understand that some of you are not allowed to spend much time with us.

Many thanks to everyone who contributed to this Newsletter. Come on the rest of you, put something down on paper for the NEXT one. (I'm told I should be planning it NOW!) This edition was prepared, with the help of Simon Hopkins (my husband) and Nick Layt from the Radiation Network, on our new desk-top publishers so please forgive the pictures etc. as it did go to my head!

Shirley Hopkins

CONTACT POINTS WITHIN OBSERVATION PROVISION BRANCH

SURFACE NETWORKS GROUP

Section: Climatological Station Management

Function: Liaison with observers. Queries on running a climatological station. Supplies of stationery, forms, equipment, sunshine cards and pocket registers. Site visits and changes.

Staff: HSO George Spence Ext. 4456
SO Shirley Hopkins Ext. 4522

Address: Meteorological Office
Met O (OP)1a
Room 105, London Road
Bracknell, Berks. RG12 2SZ

Section: Solar Radiation Network Management

Function: Administration and inspection of radiation stations.

Staff: SO Nick Layt Ext. 6606

Address: Meteorological Office
Met O (OP)1b
Room 105, London Road
Bracknell, Berks. RG12 2SZ

COMPUTER DATA ARCHIVING GROUP

Section: Quality Control

Function: Collection and quality control of climatological data.

Staff: HSO Anne Tunnicliff Ext. 6819
SO Bruce Hancock Ext. 6634
ASO Dave Forrester Ext. 6822
ASO John Spafford Ext. 6823
ASO Jan Lewandowski Ext. 6824

Address: Meteorological Office
Met O (OP)3a
Room 137, London Road
Bracknell, Berks. RG12 2SZ

Section: Planning and software development.

Staff: HSO Margaret Elms Ext. 6813

Address: Meteorological Office
Met O (OP)3b
Room 133, London Road
Bracknell, Berks. RG12 2SZ



Telephone: Bracknell (0344) 85 plus the extension number.

ROYAL METEOROLOGICAL SOCIETY FIELD STUDY COURSES ON WEATHER - 1993

Understanding Mountain Weather

17-18 April 2-3 October

Cost TBA

Directed by Mr D J George, formerly of Cardiff Weather Centre.

A course for those who go into the mountains for work or leisure, including leaders of parties, those working for Mountain Leadership Instructor qualifications. Duke of Edinburgh Award work, etc. and those connected with the National Curriculum work in Geography or Physics. Further details from the Advanced Field Study Centre, Ty-r Morwydd, Pen y Pound, Abergavenny, Gwent HP7 5UD.

Understanding Weather

30 July-6 August

£210

Malham Tarn Field Centre, Yorkshire.

Directed by Dr Keith Weston, University of Edinburgh, and Dr David Warren.

A course in which you are immersed in the weather and all things meteorological in beautiful surroundings 1300 ft up in the Yorkshire Dales. A full week's programme of talks, outdoor work and films includes learning about weather satellites, a forecasting competition and the launching and tracking of hydrogen-filled balloons. Useful for GCSE teachers and students.

Weather and Climate

**25 August-1 September Res.
Non-residential**

£210
£140.50

The Leonard Wills Field Centre, Nettlecombe Court, Somerset.

Directed by Dr Bob Riddaway and Dr Geoff Jenkins, Meteorological Office.

Do you want to understand the weather and find out how to make your own weather forecasts? Do you want to track weather balloons? Do you want to understand the debate about global warming and other environmental issues? If you do, this is the course for you. The course is suitable for anyone with a lively curiosity and an interest in weather and climate. It is useful for teachers and students.

Weather and Bird Migration

4-9 September

£165

Gibraltar Point Field Station, Skegness, Lincs.

Directed by Mr Malcom Walker and Mr Al Venables, University of Wales, College of Cardiff.

This course is intended for bird-watchers who wish to study the ways in which migrations, populations and flight patterns of birds depend upon weather and climate. Much of each day is spent in the field; and the aim is chiefly to relate the species seen, and their numbers, to the current weather situation.

Weather Under Sail Aboard "Hoshi"

19-26 June

£385

Directed by Mr Peter Cockroft, BBC Weatherman.

Run in conjunction with the Island Cruising Club.

Sailing from Salcombe in Devon, the course takes place aboard the Club's 72 ft classic Edwardian schooner "HOSHI", with berths for 8 plus Peter Cockcroft, Skipper, Mate and a full-time cook. Learn very directly how the weather influences the planning and handling of a traditional yacht at sea in the English Channel - you'll need a passport too! Price includes food, accommodation, insurance and all tuition - all you need is spending money!

Weather Under Sail Aboard "Provident"**25 September-2 October****£370***Directed by Bill Giles, BBC Weatherman.**Run in conjunction with the Island Cruising Club.*

"Provident" is a 70ft converted Brixham sailing trawler with berths for 12 plus Bill Giles, Skipper, Mate and Cook. The week will be similar to the week outlined for HOSHI 19-26 June. Details of the above two courses direct from the Island Cruising Club, Island Street, Salcombe, Devon TQ8 8DR.

Mountain Weather**3-4 April 27-28 November****£113***Directed by Mr T Spalding, Meteorological Office.*

Weekend courses for those who go into the mountains for work or leisure, including leaders of parties, those working for Mountain Leadership Instructor qualifications, Duke of Edinburgh Award work, etc. Includes one field trip and informal lectures. Bookings (including deposits of £50, deducted from course fee of £113) to National Mountain Centre, Plas-y-Bremin, Capel Curig, Gwynedd, LL24 0ET.

For further details on the above courses, please write, stating your specific interest to:

**The Executive Secretary
Royal Meteorological Society
104 Oxford Road
Reading
Berks. RG1 7LJ**

MET. OFFICE COURSES

These courses are run at our College near Reading. The course is free with food and accommodation provided and travel expenses reimbursed. During the course you will be helped to understand the complexities of the 3208b, learn how to look after the equipment and generally immerse yourself in the weather. Apart from lectures there are videos, films and a visit to the Headquarters building in Bracknell. You will find the lecturers happy to cover any topics which may interest you.

The Met. Office College has not yet informed us of the dates for courses in the 93/94 academic year. The dates of the courses will be announced either in the summer letter or nearer the date of the first course.

There are still places available on the course running from Monday 28th June until Friday 2nd July 1993. If you or your deputies are interested in attending this course please ring George Spence on 0344 854456.

NEWS OF STATIONS

NEW STATIONS

During January 1992

East Okement (Devon) - A private farm site run by Mrs J Cooper.

Charsfield (Suffolk) - Mr A Youngman is a private observer.

Strete (Devon) - Dr I R D Proctor has started observing at his new home after moving from Wingerworth.



During February 1992

Storrington (W Sussex) - Mrs C A Bryer was the observer at this private farm. (See Closures)

During April 1992

Aughton Ruddings (Yorks.) - Mr A Wake observes at his farm.

Coalbrookdale (Shrops) - Ms S Spicer is the observer at the Ironbridge Gorge Museum of Iron.

Penton (Cumbria) - The observer is Mr A J Crouch and the site is on his farm.

Levens Hall (Cumbria) - Mr C H Bagot observes at the Levens Hall Estate.

During June 1992

Penhow (Gwent) - Mr J F Pitcher is a private observer.

During July 1992

Wark (Northumberland) - This is a private farm and Mrs A Hutchinson is the observer.

Chudleigh (Devon) - The Home Farm Trust runs this station, the observer is Mr D Reece.

Ibsley (Hampshire) - The Rev. G Jerrard runs this station as a private individual.

During August 1992

Heydon (Hertfordshire) - This station is run by Wood Green Animal Shelter and the observer is Mr G F Fuller.

During September 1992

Treknow (Cornwall) - Mr C Tapper is the observer at the Bluff Study Centre.

Blencathra (Cumbria) - The Blencathra Field Centre's observer is Mr R Lucas.

Cefn Llech (Powys) - Mr J Williams observes as a private individual.

During October 1992

Libanus (Powys) - Mr B Watkins observes in the Brecon Beacons National Park.

Ditchingham (Norfolk) - Mr P Stearn will be observing from his home.

During January 1993

High Hayrake (Nthmbld) - Mr & Mrs T J Collins will observe at their farm.



CLOSED STATIONS

Hurley (Berkshire) - An IGAP station which was closed down in their reorganisation.

Towry Castle (Dyfed) - Problems with the site caused Mr D C Smith to close the station. Another site may be found in the future.

Arborfield (Berks) - Another IGAP station closed down.

Fleetwood Anemo (Lancs) - No longer repairable so closed by mutual agreement between the Met. Office and Wyre Civic Council.

St Ives (Cornwall) - Closure of the Coastguard station has forced the loss of this station.

Brighton (Sussex) - Brighton Borough Council have withdrawn from co-operation.

Ilfracombe (Devon) - Constant vandalism and lack of Council action over many months have forced us to close this Reference station.

Storrington (Sussex) - Difficulty in maintaining 0900 GMT observations and unhappiness at the receipt of Quality Control amendment letters caused the closure of this station.

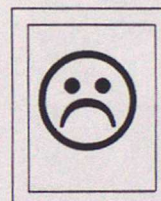
Hawkrigde (Somerset) - L iscombe EHF has been closed in cut-backs but an automatic station remains.

Rishworth (W Yorks.) - School can no longer cover weekends and time is short for the rest of the week.

Banbury (Oxfordshire) - Waterworks site closed for reconstruction, may reopen in 1994.

Wykeham Forest (Yorks.) - Forestry workers could not cover weekend observations.

Roadford Dam (Devon) - SW Water employees no longer work at weekends, may reopen as an automatic station in the future.



COMING SOON

Normanby Hall (Humberside)
Teffont Magna (Wiltshire)
Cheswick (Northumberland)
Wallington (Northumberland)
Duncton (W. Sussex)



Stations opened and closed in 1992

- Opened in 1992
- Will open soon
- ◆ Closed in 1992





THE FOLLOWING OBSERVERS HAVE GAINED AWARDS FOR LONG-TERM CO-OPERATION

FOR FIFTY YEARS AND OVER

Mr J C W Day B.E.M. Walsall

Mr R K Moore

Mr P Wallace

Swanage

Whitby

FOR THIRTY YEARS AND OVER

Mr E Clugstone	Elmstone
Mr J W Philips	Goudhurst
Mr B G Clist	Hemyock
Mr E W Culling	Lacock
Mr T Bridge	Lyonsall
Mr E Bonser BEM	Newtown Linford
Mr H Edwards	Penmaen
Mr Q D Pope	Woburn
Mr H H Williams	Wisley

FOR TWENTY YEARS AND OVER

Mr F W Ford	Cheltenham
Mr D Fellowes	Clarborough
Mr C Smith	Everton
Mr R A Garrard	Hastings
Mr J K Hulme	Ness Gardens
Mr T H Riley	Sheffield

FOR TEN YEARS AND OVER

Mr J Fearnhead	Astwood Bank
Mr L Lloyd-Jones	Aber
Mrs L G Hughes	Aber
Mr S P Garland	Bolton
Mr J White	Didbrook Fields
Mr A W Wyles	Hadlow College
Mr C Jones	Halesowen
Mrs H Tyssen-Gee	Hampstead
Mr R Ikin	Knutsford
Mrs P Ikin	Knutsford
Mr M Beaumont	Newquay
Mr B Owen	Pen Y Ffridd
Mr S A Hosking	Penzance
Mr R O'Sullivan	Rettendon
Mr P O'Sullivan	Rettendon
Mr R Davis	Sidmouth
Mr J D Goodger	Velindre
Mr M J Rodgers	Winfrith

NEWS OF OBSERVERS

Mr K W Bryar, the observer at Falmouth, was awarded the B.E.M. for services to Meteorology.

Mr Harry Baker, the fruit specialist, has retired from Wisley after many years as the main observer. His duties have been taken over by Mr Haden Williams.

We regret to announce the death of Mr T C Smith B.E.M. who observed at Raunds for over fifty years.

High Standard 1992 AWARDS

Mr A Royal

Brooms Barn

Mrs A E Benson

Casterton

Mr T Gibbs

Folkestone

Mr J Hodgson

Keyworth

Mr P Bunn

Lowestoft

Mr D Hopwood

Morecambe

Mrs S Lennox

Nethercott

Mr A M Wood

Penhalvean

Mr M Stedham

Saron

Mr D T Ireland

Westleton

The ten best observers are chosen, by the Quality Control team, from the many excellent stations reporting to us. Each year we try to give awards to different stations. If you did not receive an award this year, after gaining one in the past,

TRUE AIR TEMPERATURE - TRUE OR FALSE?

The measurement of true air temperature has occupied scientists for centuries. The first recorded effort was by Galileo in the 16th Century using his simple air thermometer which registered the expansion and contraction of a column of water. By the time Fahrenheit made his contribution in 1724, mercury had replaced water and other thermometric fluids and a more consistent quality of manufacture of instruments allowed the adoption of a universal scale for calibration.

In 1709, Fahrenheit chose for the zero point of his scale the lowest temperature he had recorded using a mercury thermometer in a mixture of salt and ice (-32°F) and the average



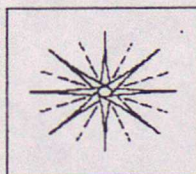
temperature of the human body for the upper calibration point. Development of this scale eventually standardised on the freezing and boiling points of water (32°F and 212°F) as more reliable and reproducible constants. So reliable, that other scientists adopted the same calibration points for their own different approaches - Réaumur settled on 80 divisions between the points for his alcohol thermometer and, a little later in 1736, Celsius proposed 100 divisions and thus the centigrade scale was born. Celsius thought that the boiling point of water should be 0° and freezing point 100° , but Linneaus put him straight - perhaps we should record $^{\circ}\text{L}$ instead of $^{\circ}\text{C}$?

So, having sorted out a calibration technique, attention could shift to ironing out the anomalies observed when recording air temperature. The effects of direct sunshine and rain on unshielded thermometers were well known and various methods were used to protect the

instruments, ranging from a simple roof fixed to a north-facing wall to complicated boxes. Clearly, a standard environment for shelter was required so that comparison might be made between identical instruments in different places.

One of the earliest systematic studies of thermometer screens was conducted between 1868 and 1870 by the Rev. Griffiths on the lawns of the Rectory at Stratfield Turgis. A comparison of various patterns of instrument screens led to the recommendation that the one produced by Thomas Stevenson should be adopted as standard because it was the best of the bunch. That model of screen had double louvres and no floor. Earlier experiments had shown the need to avoid stagnant air around the thermometers and so the screen's solid roof was furnished with a small capped chimney to allow heated air to rise and escape and draw in fresh air from outside on days of calm winds.

Critics debated the ability of the Stevenson Screen to measure consistent temperatures on calm days and breezy days - it



is clear that convection in a very small space on a calm day cannot compete in efficiency with a draught blowing through louvres. A consistent standard was achieved by Assmann in 1892 with his classic aspirated psychrometer. Assmann solved the ventilation problem by housing the thermometer in a tube attached to a fan which drew air around and past the thermometer at a fixed rate no matter at what speed the wind was actually blowing. So at last it was possible to evaluate the effect of screens on thermometers by comparison with the temperature of free air outside the screen.

Subsequent studies and experiments led to the Stevenson Screen which we use today. The floor was filled with overlapping planks to cut out short wave radiation from snow (which can be up to 20 times greater than from grass), the



louvres were spaced further apart and the roof was doubled and the chimney scrapped. Inevitably there is an element of compromise in the design.

Consider the treatment it gets in a temperate climate: it has to endure both high and low temperatures, often a wide range in a short period of time; it gets wet; it gets wet and then frozen; it gets an uneven baking from sunshine; it gets snowed on and in; it gets becalmed or thoroughly blown; it gets saturated inside and outside with fog and is expected to work during both day and night.

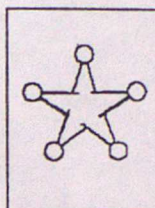
Over the years we have learned much about the shortcomings of the Stevenson Screen. We know that the temperature close to the south wall on a sunny summer day can be up to 0.5°C higher than the middle and that the top is on average 0.2°C warmer than the floor in daytime. We have discovered that the presence of large black bodies can increase temperatures by up to 0.3°C and so, wherever possible, bulky instruments such as thermographs and hygrographs are excluded. When the louvres are wet the incoming air is moistened and the relative humidity is artificially increased and the air is cooled by evaporation.

The shortcomings of the screen are, however, mitigated by the advantages. Firstly, it does a splendid job of protecting the thermometers from direct and indirect radiation and from precipitation. Secondly, its lag, or response time to small changes in air

temperature, is slow enough to smooth much of the 'noise' of the rapid variability of temperature to a sensible value which, when added to the lag of the thermometer, produces a systematic lag of between 2 and 3 minutes when the wind blows at 10 knots.

In one form or another the double-louvred screen is used all over the world. We use a variant which has evolved for temperate climates. There are tropical versions with thatched roofs and pagoda roofs and a verandah roof which overshadows the screen by several feet all round.

Screens in a polar climate, as you would expect, suffer from being smothered in blowing snow and, in a variant used in Iceland and parts of Norway, the louvres have been replaced with solid double-skinned walls to exclude snow and the double roof takes the form of a steeply pitched gable.



To maintain consistent climatological data in the UK Climate Network it is imperative that all the instruments in the network are exposed to the same height (1.25 m) and in a well-maintained screen of good design, preferably sited over grass on level ground. Most important of all, of course, readings must be made accurately and taken at the uniform time of 0900 UTC.

Acknowledgements:

Observer's Handbook

Handbook of Meteorological Instruments
Part 1

WMO No 315 - The Effect of
Thermometer Screen Design on the
Observed Temperature by WR Sparks

Mike Weston

Head of Met O (OP)1a

BETTER LATE THAN NEVER !

COURSE CO4/91 IN RETROSPECT

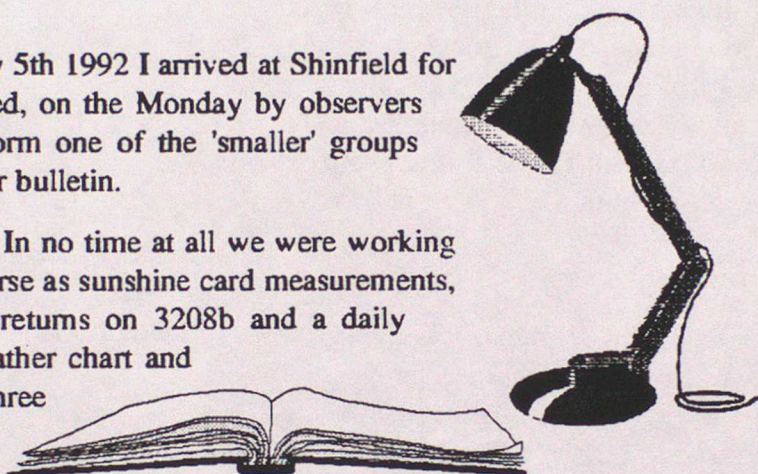
DCNN 4839
HALESOWEN
Mr C G Roberts

By its very nature, this bulletin is read by those closely tied to the subject of climate. So, what better spot to lay out the virtues of, and benefits to be gained from, one of the climate observers courses.

I speak from experience, and, like many reading this, put off for years (36 to be precise) the decision to attend on the pretext that it would not be of direct benefit. After all, what was there to reading a few instruments and noting down readings that needed a course to drive it home?

How wrong I was. On July 5th 1992 I arrived at Shinfield for course CO4/91, to be joined, on the Monday by observers from 9 other stations to form one of the 'smaller' groups mentioned in the September bulletin.

Small, yes, but very keen. In no time at all we were working together on projects as diverse as sunshine card measurements, daily observations, climat returns on 3208b and a daily briefing on the current weather chart and forecast by one of the three instructors.



Every aspect of running a climate station was covered, plus useful tips on weather codes and instruments. A short morning visit to Bracknell HQ, perchance in one of its constructional upgradings was brief (a whole day would have been beneficial), but informative.

Practical exercises were liberally scattered throughout, and videos and films gave further helpful information. And of special interest to me personally, the computer complex was available in the evenings for one to browse through the wealth of information on line. And all of this amidst the sylvan setting of Shinfield Park, an oasis of greenery and peace.

Not to forget the 'inner man - or woman', the meals were superb: self help for the very substantial breakfast and waiter service for the other two three-course meals of the day - SLIMMERS BEWARE!

All in all a most useful, informative and valuable 5 days, with new friendships forged and experiences tapped. If any of you are still in doubt; reach for the pen and fill in the application form without delay. You will not regret it.

CLIMATOLOGICAL DATA ON FLOPPY DISC

For many years meteorological data have been transferred on large magnetic tapes. Now that Personal Computers (PCs) are so widely used it should be possible for data to be transferred on diskettes (floppy discs). In fact a data Transfer Format was set up a year or so ago and some five stations have regularly sent us their observations in this way for all or part of that time. Many Water Authorities also send rainfall data on diskettes.

The Transfer Format was originally devised as the final format for observations which have been made by Climatological Automatic Weather Stations (CAWS) but is also used to transfer data recorded manually from standard instruments and entered on a computer. This form of data transfer is very helpful since it removes one of the stages for inputting data to our Database.

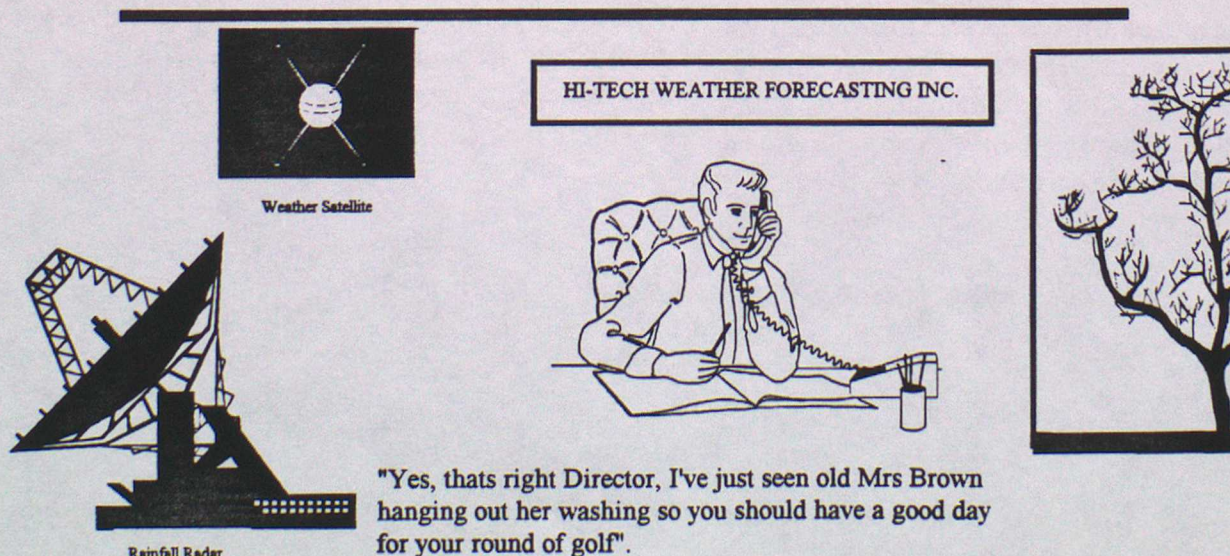
The present procedure for sending CAWS Transfer Format data to the Met Office is that stations 'download' a month's data into a file on a floppy disc during the first few

days of the following month and send it to us by post. We return the discs about every three months having copied the data to our Databank. We then deal with the data in the same way as those received on a Metform 3208B and typed into the computer by hand.

There have been teething problems and we are most grateful to those concerned at the stations which helped us set up this system.

We are now developing a system with a spreadsheet, for use on a PC, to enable observers to send us the Monthly Climatological Return (Metform 3208B) on diskette. This spreadsheet will also provide graphs of various elements. Anyone interested should contact me. Also, if you feel capable of converting your data into the CAWS Transfer Format, please contact us for details of the Format.

Margaret Elms Met O (OP)3
0344 856813



METEOROLOGICAL SERVICES TO SPAN EUROPEAN BOUNDARIES

The National Meteorological Services of Europe have announced plans to co-operate more closely, making data and products more widely available whilst operating commercially across borders.

The National Services involved, through a group chaired by Professor A Lebeau from France, have lodged a blueprint of these plans, known as

ECOMET, with the CEC in Brussels to reflect the single European market.

Any weather service, as a member of the group, could then sell the services of the other centres, creating a wider choice for industry.

Specifically, ECOMET aims to enhance the collaboration between European National Meteorological Services in the supply and support of observational data, forecast products and value-added weather services to professional users and the public. It will also prove a more effective vehicle to provide such data and products to private weather firms to enable them to offer value-added services alongside those of the National Meteorological Services.

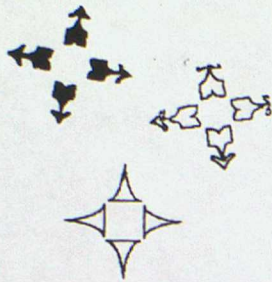
The ECOMET Working Group Chairman expressed the opinion that there is a growing interest in environmental information and a growth in demand for high quality meteorological services, underpinned by steady increases in the accuracy of weather forecasts.

Under the proposals, European Meteorological Services could contribute data, forecast products and added-value services to an ECOMET catalogue.

Members could then offer services across Europe based on the outputs derived from the catalogue. In addition, private sector companies could then have access to the basic data and products on an agreed basis to allow them, also, to provide competing services.

This heralds a new era in the co-operation between the National Meteorological Services in Europe and, in association with the private sector, in the availability of weather services. This move can only benefit industry and the public, as it will bring the benefits of comprehensive, top quality services to a much wider clientele.

*(Taken from a press release issued by the Met.
Office on 2nd September 1992. ED.)*



CAMCORDING THE WEATHER

*Gerry Southern
Presteigne*

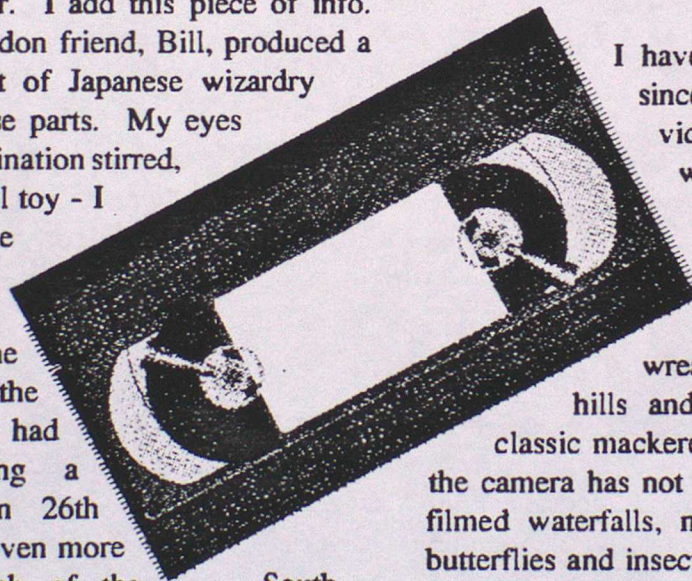
In January of this year a life insurance policy matured and, owing to the high interest rate policy of the present Government, there was, happily, more in the nest egg than anticipated. Thus, I elected to indulge myself and purchase a barograph to add further interest to the met. instruments supplied by the Met. Office.

In June friends from London stayed in Presteigne to join wife and self on walks in the unspoiled countryside hereabouts. Well, we are rather behind the times in these parts and that is an attraction in itself to the discerning visitor. I add this piece of info. because my London friend, Bill, produced a camcorder, a bit of Japanese wizardry unknown in these parts. My eyes opened, the imagination stirred, what a wonderful toy - I could video the weather!

No-one ever really believes me when I recount the large hail that I had witnessed during a thunderstorm on 26th June, 1980, or, even more startling, a patch of the South Downs bespattered with tiny sea shells after the very violent thunderstorm on 5th June, 1983! Also, about a 500 yard wide swathe of hail that marched from this property across the valley to disappear over the hill, a kind of broad, white road, honest to God it is true!

I passionately wanted a camcorder so I elected to purchase the Canon E230, new out this year and described, by the Camcorder User's magazine, as "idiot proof" or words to that effect.

So now I am equipped to video that elusive tornado that has escaped me these last 50 odd years and, more mundanely, unusual sky formations, rainbows, snowdrifts, wind driven snow, force 10 gales etc.. The camera even employs the facility for time-lapse photography, ideal for Cu. Nim. build up.



I have had the video camera since mid-July and bought a video tape especially for weather phenomena. To date I have about 1 minute's filming and that is heavy rain falling during a shower, wreaths of mist on nearby hills and last, but not least, a classic mackerel sky. In the meantime the camera has not been idle, oh no, I have filmed waterfalls, mountains, moors, birds, butterflies and insects. Yes, I know it is not what the camera was bought for but I am a patient man, I shall, in time, have a full video weather tape, it will take years but there are those elected moments in weather watching when the unexpected, the beautiful and the dramatic all combine together to make a mini work of art and that is when the camcorder will be worth its weight in gold.

Fax Breakthrough Brings The Weather Into The Classroom (or Home)

The Met. Office has launched an innovation in classroom teaching and a breakthrough in fax technology - the first ever dial-up fax service.

"METFAX EDUCATION", as it is known, enables any teacher (or interested party) with a fax machine to access up-to-the-minute weather information immediately and automatically at the press of a button. The service will provide 12 options comprising synoptic charts, weather reports, shipping forecasts and general news and facts; and guidance on how to interpret these. Charts are updated up to eight times a day.

The METFAX Education service was devised after extensive research among school teachers; it answers a clear need for real-time data when teaching science and geography. The new service follows independent research into ways in which the Met. Office could assist the teaching of weather related topics and increase student awareness of the important role weather information plays in a multitude of situations. The service will complement a range of resource packs, wall charts and videos released last Autumn.

METFAX EDUCATION - HOW TO USE IT

"METFAX" Education" can be accessed from virtually every fax machine simply and rapidly. Each METFAX chart has its own dedicated telephone number, with an index on 0336-400-480. The index will also highlight new products as they develop.

Charts can be accessed generally by using the "poll receive" mode on a fax machine, without documents in the feeder. Some fax machines will automatically go to "poll receive" mode on connection with "METFAX Education" and after pressing "start". If the fax machine has a handset, it may be sufficient to pick it up, dial the number and press the "start" button after the initial message.

If difficulties are encountered, users should consult their handbooks for more detailed instructions on polling. If problems persist, they should fax details to the METFAX helpline on 0344-854018 giving name, fax and telephone numbers, make and model of fax machine and details of the problem. You can also phone 0336-400-500 for brief details on problem fax machines.

METFAX calls are charged at 36p per minute cheap rate and 48p per minute at all other times (both include VAT).

For further information contact:

Katherine Mallin, Education Services, The Met. Office, Johnson House, London Road, Bracknell, Berkshire RG12 2SZ. Tel: 0344 854011

INDEX OF PRODUCTS

FAX NUMBER	PRODUCT DESCRIPTION	TIMES	MINUTES
0336-400-480	Index Page	As Required	2'00"
SHIPPING FORECASTS			
0336-400-481	Shipping Forecast	0030,0600,1400,1800	2'30"
0336-400-482	Guide & Map	As Required	4'30"
0336-400-483	Desc. of Beaufort Forces	As Required	3'00"
SYNOPTIC CHARTS			
0336-400-484	Surface Pressure Chart (Analysis)	0340,0940,1540,2140	3'00"
0336-400-485	Surface Pressure Chart (24 hr Forecast)	0440,1040,1640,2240	3'00"
0336-400-486	Guide to interpreting Synoptic Charts	As required	4'30"
WEATHER REPORTS			
0336-400-487	Plotted map of latest reports from the U.K.	0030 then 3 hourly	2'30"
0336-400-488	Guide to plotted reports inc. index of locations.	As Required	4'30"
NEWS, FACTS AND INFORMATION			
0336-400-489	World Weather News	Daily at 1830	4'00"
0336-400-477	Table of Monthly Statistics (Northern U.K. weather stations)	1200 on the 6th working day monthly	3'00"
0336-400-478	Table of Monthly Statistics (Southern U.K. weather stations)	1200 on the 6th working day monthly	3'00"
0336-400-479	Information Fact Sheet A new topic each month.	1200 on the 6th working day monthly	4'00"

Please note that these calls are charged at 36p per minute cheap rate and 48p per minute at all other times (inc. VAT). Update times are available an hour later during British Summer Time. Update times and duration are approximate and variations may occur from time to time. Users are advised to check the Index Page for latest details.

The Met. Office can provide a range of teaching and reference material suitable for use in schools. Items available include curriculum linked resource packs, wall charts and leaflets. To receive further details please write to: Met. Office Education, Johnson House, London Road, Bracknell, Berkshire RG12 2SY.

IT'S ENOUGH TO GET ON YOUR WICK

The next time your conscience insists that you cannot put off changing the wet-bulb muslin any longer, just spare a thought for those who have to operate reference psychrometers.

The psychrometer is the big brother of the wet and dry thermometers in the temperature screen and, although it's an upmarket GTi model, it is still recognisable as a pair of thermometers with one of them wearing a nappy. The idea is that instead of relying on the uncontrolled ventilation in the screen to evaporate the water on the wick, a motor driven fan is used to pull air across the thermometers at a constant rate. This solves the question of 'and what happens when you open the door?'

Reference equipment are fitted with high quality electrical thermometers, slightly thinner than pencils and needing a cotton sleeve for the wet-bulb. Such thermometers can measure temperatures down to one thousandth of a degree C. but, as with all good things, there is a snag - they and the sleeving have to be scrupulously clean. This involves removing all industrial and vegetable contaminants, including fingerprints, from the materials. The recommended procedure goes something like this.

1. Sterilise a small glass vessel by raising it to 500°C in an oven.
2. Cut cotton sleeving, the wick and fastening thread to length.
3. Degrease these fabrics with distilled organic solvent (alcohol) in the sterile vessel.

4. Boil fabric items in a 5% aqueous solution of caustic soda and rinse by further boiling in successive portions of distilled water.

5. Using sterilised stainless steel forceps and fresh filter papers, blot excess water from the materials then allow them to dry naturally between more filter papers.

6. When dry, transport covered materials to the instrument using forceps. Don thin disposable polyethelene gloves (available in inexpensive medical packs). Now avoid touching anything except the prepared sleeving, wick and thread and dress the wet bulb.

7. Fill the reservoir with clean water and allow the fluid to progress along the wick and sleeve by capillarity. To guard against any inadvertent contamination from residual organic films, flush the sleeving with water from a squeeze bottle and catch the surplus drops on filter paper.

Now you are ready to make measurements.

So, when it's blowing a gale and the rain is dripping down your neck and up your sleeves (more capillary action?) and you've got a firm grip on the muslin between your teeth after dropping it twice due to frozen fingers muddling up notebook, pencil and padlock, then stiffen your resolve and don't get downhearted. Things could be worse, you could have a reference instrument to cherish.

Mike Weston

Head of Met O (OP)1a

AN INVESTIGATION INTO THE OBSERVED DISCREPANCIES
NOTED BETWEEN PLATINUM RESISTANCE THERMOMETERS
USED AS GROUND RADIATION SENSORS AND THEIR SPIRIT-IN-
GLASS COUNTERPARTS AND THE ATTEMPTS TO REDUCE
THESE.

CONDUCTED AT HALESOWEN CLIMATE STATION (DCNN 4839) DURING
SEPTEMBER TO NOVEMBER 1992.

EQUIPMENT IN USE.

The introduction of logging equipment as a means of obtaining accurate, long-term, readings of climate data has highlighted certain apparent discrepancies between the logged and actual thermometer readings when using platinum resistance probes as the ground radiation sensors.

The climate station at Halesowen now has a fully operational logging system based on the Windtracker 5000 from Weather Data in Rugby. This uses, for temperature readings, platinum resistance probes in standard stainless-steel sheaths. In all, 11 probes "mirror" temperatures in the air, on the ground and under the soil.

THE PROBLEM

In operation, it soon became apparent that those probes used as ground radiation sensors did not yield readings to the same degree of accuracy ($\pm 0.2^{\circ}\text{C}$) as those in the screen or under the soil. Under certain conditions, especially on clear, still nights, grass minimum readings could vary by as much as 2.5°C , the probe almost always being the higher. Both slab and soil surface probes also showed the same deviations, though not of the same magnitude, being generally less than those on grass.

With screen and soil readings showing much closer agreement in all instances, it seemed that the physical properties of the stainless-steel platinum resistance probes, under certain conditions of radiation to space at night, were influencing the readings compared with those from the normal spirit-in-glass thermometers under similar conditions.

ACTION TAKEN.

In an attempt to reduce the observed deviations an experiment was set up making use of glass sheaths over the resistance probes to attempt to create approximately similar surface properties to those of the spirit-in-glass thermometers. The set up is shown in fig (i). The glass sheaths were fabricated from combustion tubes, readily available from school laboratory suppliers.

In all cases, the resistance probes were set up in exactly the same way as that recommended by the Meteorological Office, particular care being taken to avoid heat transfer along the stem from, or to, the ground in the case of the grass minimum sensor. Tube ends were sealed to prevent the ingress of water. The methods adopted are illustrated in figs. (ii), (iii) and (iv).

RESULTS

The trials were conducted during September to November 1992, with the analysis being for the month of November when frost was recorded and night conditions were particularly suitable for good radiation to the sky.

The initial results with no glass sheaths came from July. These produced readings which showed marked discrepancies between sensor and thermometer in the order of 2 to 2.6 degrees .

The November trials, making use of the glass sheaths, were for grass, slab and soil surface and produced the following results.

Grass	Discrepancy range	-0.3/0.5°C	Mean deviation	0.0	Standard deviation	0.2
Slab	Discrepancy range	-1.0/0.5°C	Mean deviation	0.0	Standard deviation	0.3
Soil	Discrepancy range	-1.3/0.5°C	Mean deviation	0.0	Standard deviation	0.3
All	Discrepancy range	-1.3/0.5°C	Mean deviation	0.1	Standard deviation	0.3

Frequency distribution charts for the above data are shown in fig. (v)

The trials in September produced remarkably similar results.

SENSOR DIMENSIONS WITH GLASS PROBE IN PLACE.

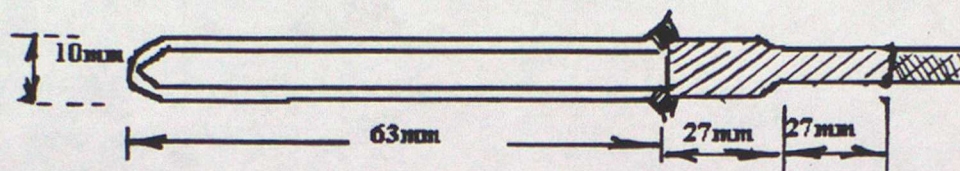


Fig (i)

GRASS MINIMUM SENSOR.

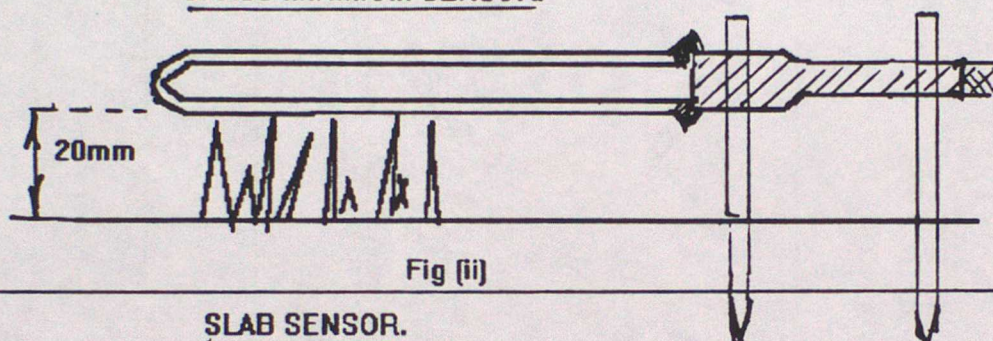


Fig (ii)

SLAB SENSOR.

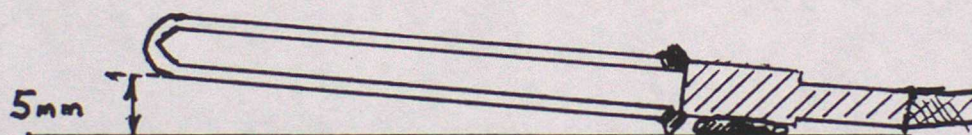


Fig (iii)

SOIL SURFACE SENSOR.

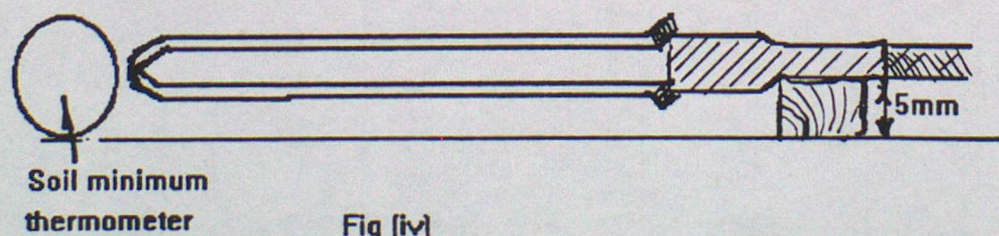
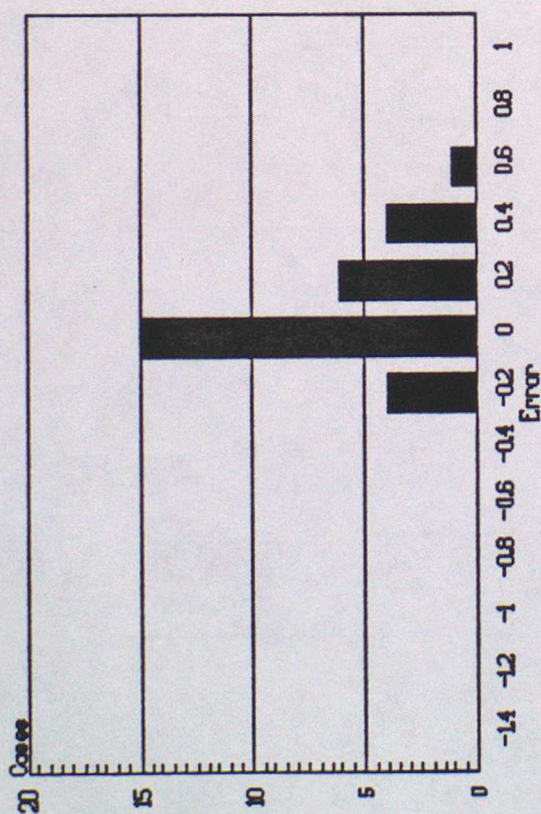
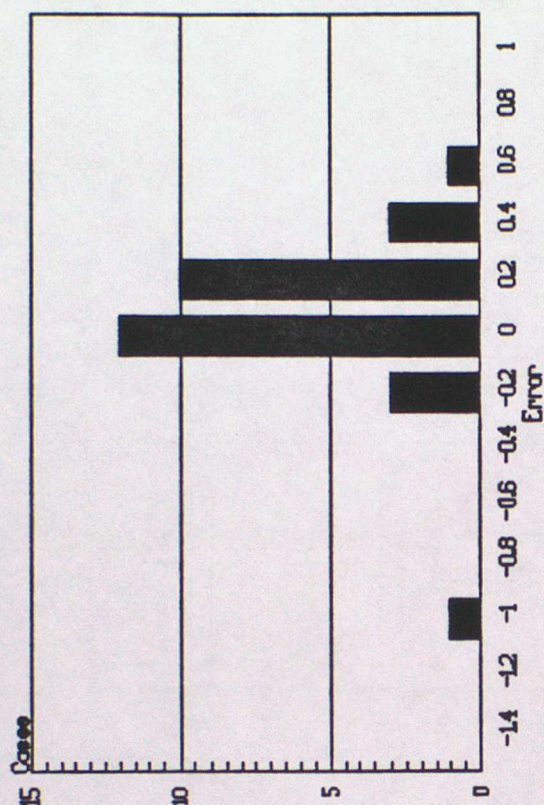


Fig (iv)

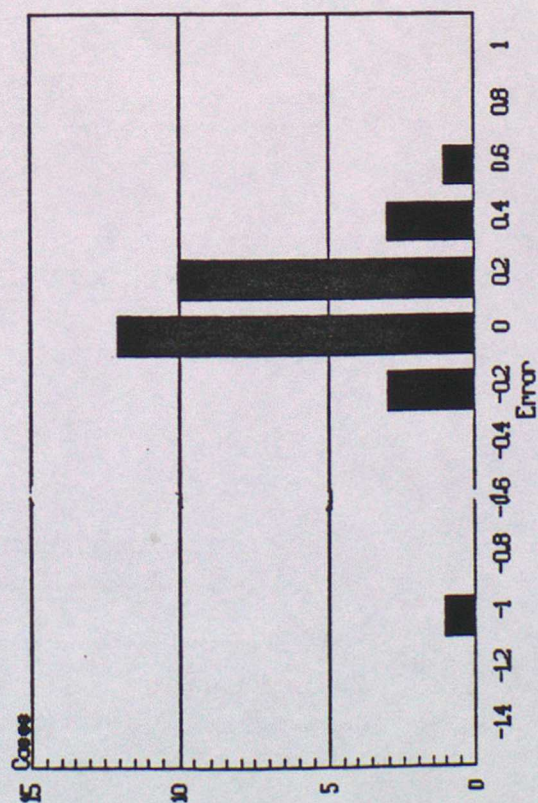
HALESOWEN CLIMATE STATION, DCNN 4839
GRASS SENSOR ERROR DISTRIBUTION.



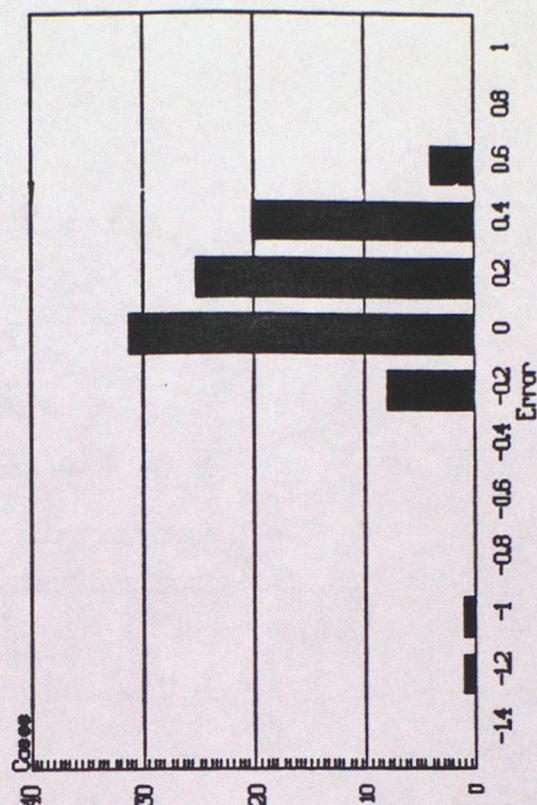
HALESOWEN CLIMATE STATION, DCNN 4839
SLAB SENSOR ERROR DISTRIBUTION.



HALESOWEN CLIMATE STATION, DCNN 4839
SOIL SENSOR ERROR DISTRIBUTION.



HALESOWEN CLIMATE STATION, DCNN 4839
ALL SENSORS ERROR DISTRIBUTION.



CONCLUSION AND RECOMMENDATIONS.

A marked improvement in overall deviation between sensor and thermometer was noted when using the glass sheath.

It would therefore seem a sensible procedure to fit such sheaths to platinum resistance sensors which are in use as ground radiation thermometers. It is the current practice of the Meteorological Office to have this implemented on all stations using platinum resistance thermometers for these readings.

The reasons for these discrepancies lie beyond the scope of this short account, and would require further investigative and theoretical work. However, in a further attempt to reduce these discrepancies, Weather Data have fabricated a probe with a platinum resistance sensor enclosed in a glass sheath rather than the customary stainless-steel one. Currently a further period of investigation is being undertaken using this new probe.

C.G.Roberts. 9/12/92

The end of 1992 marks 40 years of weather recording at Bramham Agromet station.

The station is owned by the University of Leeds, and run by the field unit staff of the Department of Pure and Applied Biology, with some help from the N.I.A.B. staff on the weekend rota. The station is situated in the parish of Bramham (hence its name) on the University farm.

The farm itself dates back to the time of Henry I, then in 1408 the Battle of Bramham Moor was fought over the land. To more modern times: in the first world war an aerodrome was built close to the hall and grass landing-strips set out to the east of the Met. Station. Now we have one of only two first world war hangars left in England and it is a listed building.

The university started farming this estate in 1949, with two adjoining farms, Headley Hall and Spenn Farm; two years later Wise Warren Farm was added along with some other odd pieces of land to make a total estate of 256 hectares. The soil is mainly medium to heavy loam, being derived from Permian magnesium limestone, with some glacial drift along the southern edge, is free draining, flat to gentle sloping.

The Met. Station is sited to the southwest of Headley Hall on the side of Spenn Common Lane (Grid Ref. SE441/SE411), 54 metres above mean sea level. The northeast side of the station is bounded by a roadside hedge, the rest of the station is open to arable land and the prevailing westerly winds. About ten years ago we had a lot of trouble with vanishing sunshine recorders, so a new sunshine tower was erected to the north of Headley Hall away from the public roads.

At this site we run a standard sunshine recorder and Kipp & Zonen solarimeter to record total solar radiation. The Met. Station consists of a standard set of thermometers, anemometer, wind-direction indicator and four rain gauges (two of which belong to the N.R.A.).

In the early years the monthly returns were sent in on pink forms with red lines, with the title of Air Ministry Meteorological Office-Ministry of Agriculture and Fisheries, Agricultural Meteorological Scheme, form No.3204. Then in 1958 the monthly return form No.3208 was introduced, when things such as relative humidity and accumulated day degrees were no longer required. These lasted for twenty years, then in 1978 we got form No.3208B. At this point the Met. Office stopped using Shaws

weeks, and the monthly returns were sent in by calendar months. (*What was a Shaws week? Who was Shaw? ***)

My interest in looking back through the records all started after reading two articles "Three years of drought" and "When the water runs out". Then one of the farm staff remarked that we had a three year dry spell back in the early sixties. It took quite a long time to extract all the information from 480 monthly returns and do a few conversions from Fahrenheit to Centigrade and inches to millimetres!

In the three years 1962 to 1964, the total rainfall was 1473.3mm; this gave a yearly average of 491.2mm compared with the three years 1989 to 1991 when the total rainfall was 1550.1mm, which gave a yearly average of 520.0mm. So the three years 1962 to 1964 were drier by 76.8mm for the three year period or by 25.6mm on average per year.

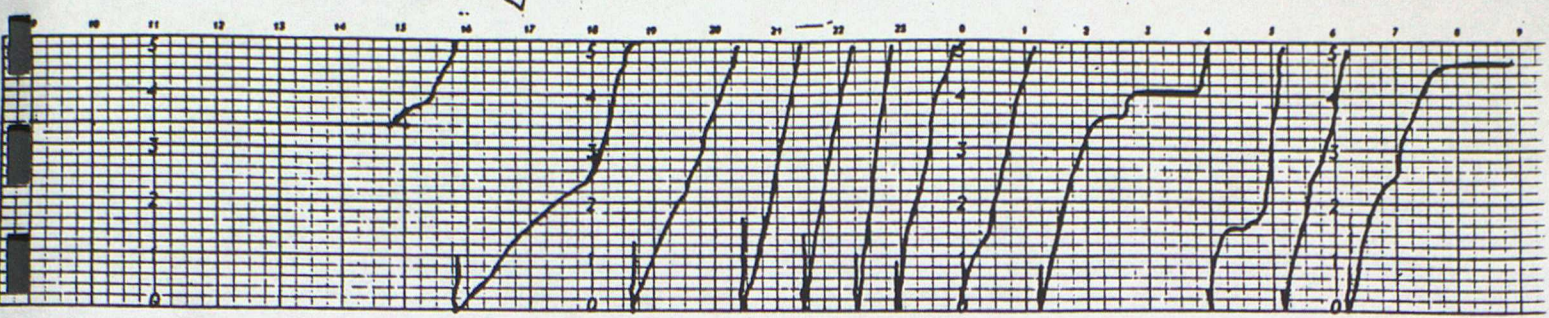
The rainfall graph of the total annual rainfall shows quite a wide range, from the driest year, 1975, with a total of 442.6mm, to the wettest year, 1960, with a total rainfall of 850.1mm; a difference of 407.5mm. The 40 year average for rainfall is 668.6mm. The wettest day that I personally have recorded was the 25/26 August 1986 when it rained continuously from 1500 hours on the 25th until 0800 hours on the 26th; over the 17 hour period 56.2mm of rain fell. (See the chart from the tilting siphon rain gauge.)

The total sunshine hours for a year vary from the lowest of 847.7 hours in 1983, to the highest of 1577.0 hours in 1989. The highest daily recording was 15.3 hours recorded on the 5th July 1989. The graph shows the total sunshine hours for the year and the average sunshine hours for the number of years.

On the 2nd August 1990 the highest screen maximum in forty years was recorded at 33.5°C. The lowest screen minimum ever recorded was -16.5°C; and a grass minimum of -18.5°C on the 18 December 1981.

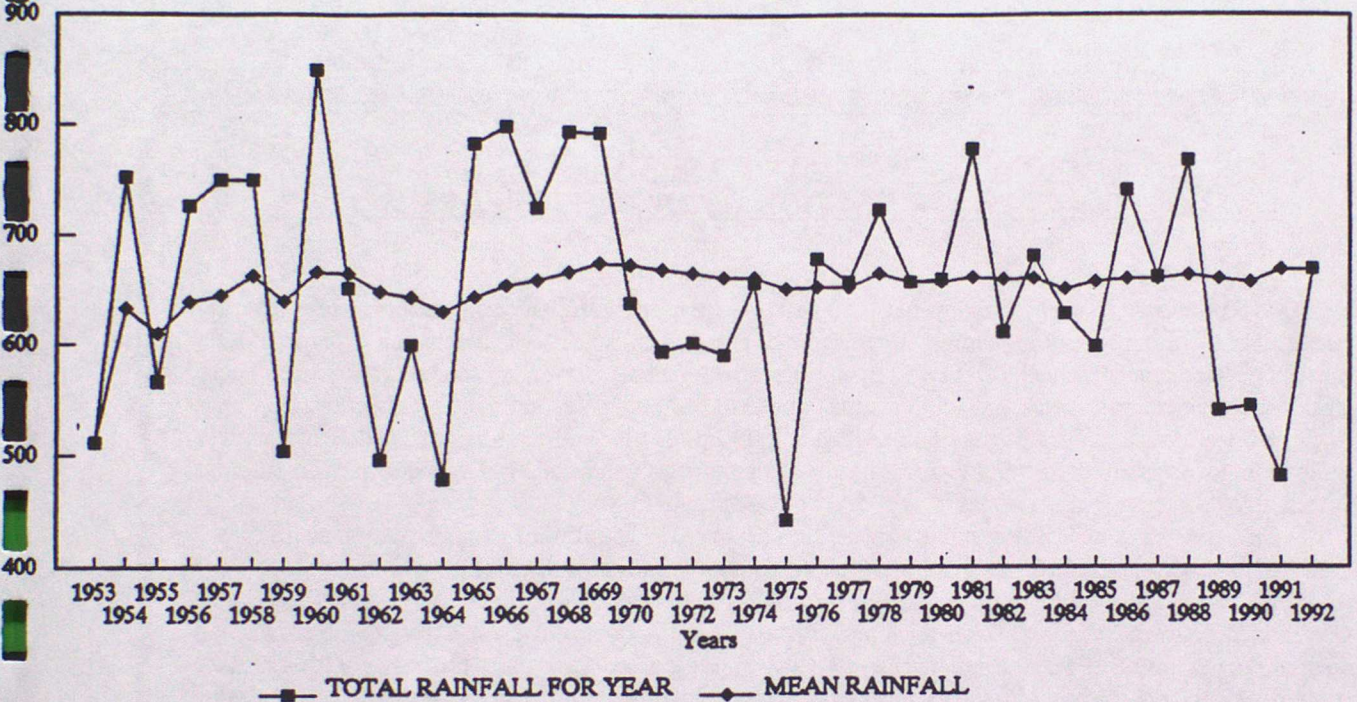
Snow fall has very little effect on the winter rainfall as we get very little snow and in some years none at all.

As well as being sent to Bracknell the data are also stored on library disc for use by members of staff and students doing higher degrees. We are now collecting more automatically-recorded data in addition to the manual records, in order to get more accurate information on when the changes in the weather are occurring.

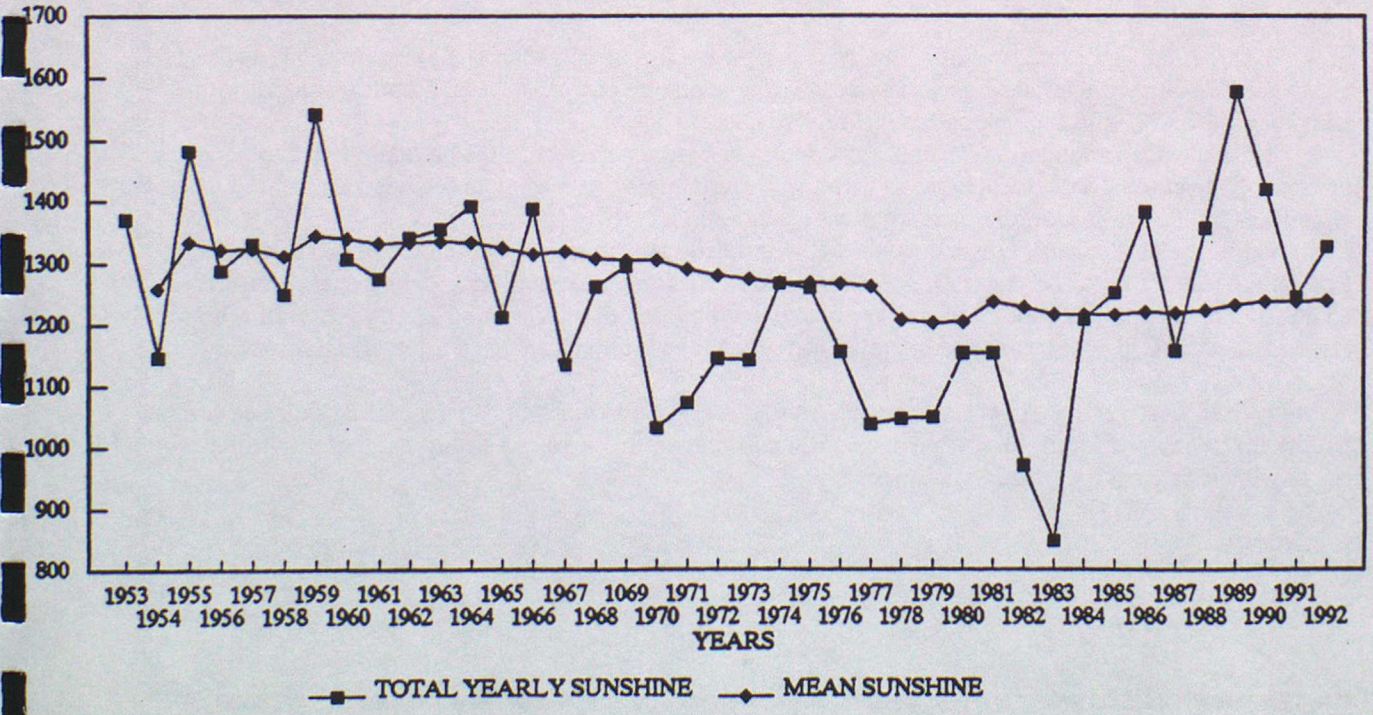


Je. 1 mm = 10 mm on chart Station BRANHAM  Total 9h to 9h Recorder 56.2 mm Check gauge mm PRINTED IN ENGLAND No. 345

RAINFALL FROM 1953 - 1992



TOTAL SUNSHINE FROM 1953 - 1993



**** Shaws weeks were named after Sir William Napier Shaw, 4 March 1854 - 23 March 1945. Chief Executive of the Met. Office 1900 - 1905 and Director 1905 - 1918, and 1919 - 1920. He did a lot of work enlarging the size and the scope of the Met Office, and bringing all the different organisations interested in meteorology under the one umbrella. Sir W.N.Shaw's idea was that Shaws Weeks would fit better into the grower's year, and would start on the 6th November. So the 12 months were replaced by 12 chapters, 8 of 4 weeks and 4 of 5 weeks. There were 4 quarters, with 3 chapters in each, based on the equinox and solstice.**

FROM FLOWER POT TO DATA LOGGER **HALESOWEN CLIMATE STATION OVER THE 50 YEARS 1943-1993**

My initiation into climatology began in 1943 whilst spending the compulsory week covering readings at the school weather station. Interest fired, I vowed to continue at home. So by early 1943 a rain gauge had been constructed from a 5" flower pot, a rudimentary Stevenson screen fabricated to house a Six's thermometer and psychrometer, a simple vane installed on a pole, and daily readings began.

By 1946 a standard 5" gauge had been purchased from MO and readings of rainfall began on a daily basis for the British Rainfall Organisation. The notorious winter of 1947 was observed in full, but with mainly non-standard instruments. The record book still exists!

January 1956 saw Halesowen Rainfall Station expand into Halesowen Climate Station as any spare cash from my occupation was ploughed into new equipment to provide full cover.

A Dines tilting syphon gauge, sunshine recorder, thermograph and hygrograph and large screen were added between 1956 and 1960 together with a full range of soil and earth thermometers and an open-scale barograph. The severe winter of 1963 was recorded in detail, this time with standard equipment. A Met. Office Mark III wind system was installed in 1980 and upgraded when a surplus duplex chart recorder became available.

In 1985 a decision was made to computerise all past, present and future data. It took over three years to key in the 30 years readings and perform an initial quality control. However, once in a database it became far more manageable and versatile.

This period saw expansion into remote sensing with the installation of a Munro tipping bucket gauge and 17 platinum resistance sensors as duplicate temperature channels. A DIY indicator panel with LED readouts and 20-position switch enabled full "in house" control.

1989 saw the installation of a Dartcom satellite system to access both the geostationary and polar orbiters. This enabled weather systems to be tracked and monitored. Full data logging commenced on December 1st 1991 to shadow the standard instruments.

Currently 41 elements, plus a weather diary, are read daily as opposed to the dozen or so in 1956. Returns to MO are made on disc in CAWS format directly from computer which negates the need for completion of Metform 3208B. With full records dating back to 1946 for rainfall and 1956 for all other elements, accurate 30-year means and extremes can be compiled for both MO and direct comparison with other stations.

It has been a full-time hobby (obsession?), but one which has given total satisfaction. Unfortunately, no one locally shows any interest in carrying on this work, so I must assume that when I go, so will climate readings from Halesowen.

C.G. Roberts

YOUR ANNUAL WEATHER SUMMARIES FOR 1992

SHEFFIELD CITY MUSEUMS DEPT. - WESTON PARK WEATHER STATION (Records began in 1882)

A slightly duller and milder but much wetter year than 1991. Rainfall was just a little higher than average but was very unevenly distributed throughout the year. Only one third of the total amount fell within the first 6 months.

Two of the driest months were January and February, although the year actually got off to a very wet start. 95% of the rain which fell in January occurred before the 9th with 60% falling in just 2 days. January '92 had the lowest number of rain days on record for January. February received only around one third of the average rainfall and was the driest February in 7 years.

Generally, the winter period was short-lived and relatively trouble-free with few very cold periods. Only 1 snow lying day was recorded compared with 17 for the same period in 1991. Mild weather continued into March and April although these months were quite dull and windy on the whole. Again no lying snow at Weston Park although sleet/snow did fall on one or two occasions.

Summer arrived early bringing dry and sunny conditions for May and June, interspersed with occasional thunderstorms. These months brought the best weather of the year. Mean temperatures were the highest on record for May since records began. The 14th was the hottest May day since 1953 with 27.8°C. It was also the sunniest May for 3 years and twice as sunny as May 1991. June was also warm with the highest June mean temperature since 1976. The hottest day of the year was the 29th with 28.1°C. Rainfall distribution was again erratic for both these months with most occurring at the beginning and end of each in association with thunderstorms. Despite being the wettest May since 1986 and 4 times wetter than May 1991, the May rainfall total was still, however, less than average.

The half-year stage registered a noticeable turn around in the rainfall pattern. Every month from July through to November received above average rainfall. The months of August and November were exceptionally wet.

Most of the July rainfall occurred during the first half of the month, with a third of this occurring in one day! In comparison to the previous 3 years, sunshine was also lacking for July (100 hours less than July 1989). Several days of heavy rain occurred throughout August and the deluge on the 8th (39mm) was to be the wettest day of the year. Heavy downpours also occurred during the last week resulting in the wettest August since 1957.

September, October and December were all colder than normal. Mean temperatures during September were the lowest for September in 4 years whilst those for October were almost 3° lower than average and the lowest for the month since 1974. December mean temperatures were the lowest for December in 11 years. November was the exception and was a little milder than average although also extremely wet with around 50% more rain than normal making it the wettest November since 1970.

ANNUAL STATISTICS 1992 (LONG-TERM AVERAGES 1951-1980)

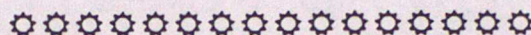
MONTH	AIR TEMP °C			RAINFALL MM	RAIN DAYS	SNOW LYING DAYS	SUN HOURS
	HIGHEST	LOWEST	MEAN				
	MAX	MIN	TEMP				
JANUARY	11.9	-5.4	3.7	43.6	7	0	37.1
FEBRUARY	12.7	-2.3	5.9	25.9	14	1	52.7
MARCH	15.2	0.0	7.1	73.6	23	0	73.9
APRIL	18.0	0.5	8.8	41.8	16	0	125.0
MAY	27.8	3.3	13.6	57.6	13	0	239.1
JUNE	28.1	7.7	16.1	52.2	6	0	192.7
JULY	25.2	8.8	16.2	77.7	14	0	183.0
AUGUST	22.8	5.7	15.3	117.7	18	0	196.3
SEPTEMBER	20.4	5.6	13.0	71.9	22	0	123.4

OCTOBER	15.4	-0.6	7.6	66.0	14	0	60.3
NOVEMBER	16.5	-2.9	7.0	129.1	24	0	34.6
DECEMBER	12.4	-5.7	3.7	67.4	16	0	19.7
TOTAL				824.5	187	1	1337.8
AVERAGES				808	183.5	20	1258

MEAN DAILY MAX.	13.3°C	AVERAGE	12.7°C
MEAN DAILY MIN.	6.4°C	AVERAGE	6.3°C
MEAN DAILY TEMP.	9.8°C	AVERAGE	9.5°C

DAYS WITH FOG AT 0900 GMT	7
DAYS WITH THUNDER	7

EXTREMES		
HOTTEST DAY	28.1°C	29th JUNE
COLDEST NIGHT	-5.7°C	30th DECEMBER
WETTEST DAY	39.0mm	8th AUGUST
SUNNIEST DAY	15.2 hrs	12th JUNE
HIGHEST WIND SPEED	51kt / 59 mph	12th MARCH



MIKE CINDERREY - CARLTON IN CLEVELAND, N. YORKSHIRE

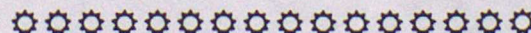
ANNUAL STATISTICS

MONTH	AIR TEMP °C			RAINFALL MM	RAIN DAYS	SNOW LYING DAYS
	HIGHEST	LOWEST	MEAN			
	MAX	MIN	TEMP			
JANUARY	11.9	-5.0	3.6	31.8	10	0
FEBRUARY	12.8	-5.8	5.5	23.0	14	2
MARCH	14.8	-1.1	6.7	77.0	20	2
APRIL	17.6	-1.3	8.3	74.9	22	0
MAY	25.8	-0.5	12.2	17.1	11	0
JUNE	26.1	4.0	14.7	28.6	8	0
JULY	23.9	7.7	15.5	65.6	13	0
AUGUST	22.3	7.2	14.9	90.6	19	0
SEPTEMBER	18.9	5.5	12.6	79.2	17	0
OCTOBER	16.0	-2.3	6.9	66.4	19	0
NOVEMBER	14.4	-4.1	6.4	72.3	20	0
DECEMBER	11.9	-7.0	3.6	71.1	12	0

TOTAL				697.6	185	4
MEAN DAILY MAX.	12.7°C					
MEAN DAILY MIN.	5.8°C					
MEAN DAILY TEMP.	9.2°C					

DAYS WITH FOG AT 0900 GMT	14
DAYS WITH THUNDER	12

EXTREMES		
HOTTEST DAY	26.1°C	29th JUNE
COLDEST NIGHT	-7.0°C	30th DECEMBER
WETTEST DAY	25.9mm	8th AUGUST



S A HOSKING - PENZANCE, CORNWALL

January was the third driest this century whilst April was the third wettest! May was nearly the warmest ever recorded and June one of the driest. August had the third highest rainfall total and the second lowest minimum temperature this century. During September there were only two dry days. The second lowest October minimum temperature for a century was recorded this year. December 23rd was the first completely dry day for 72 days.

ANNUAL STATISTICS

MONTH	AIR TEMP°C			RAINFALL MM	SUN HOURS
	HIGHEST MAX	LOWEST MIN	MEAN TEMP		
JANUARY	13.0	-2.0	6.4	40.4	60.0
FEBRUARY	12.5	-2.9	7.7	83.2	79.0
MARCH	14.7	0.4	9.0	57.8	112.8
APRIL	15.1	2.6	9.6	117.6	147.7
MAY	23.2	4.3	13.2	17.7	245.9
JUNE	24.7	9.0	15.5	18.9	234.4
JULY	24.0	9.2	17.1	54.3	186.9
AUGUST	21.6	6.5	15.8	169.8	156.2
SEPTEMBER	19.2	6.0	13.9	121.2	118.7
OCTOBER	17.2	1.2	10.3	129.8	133.7
NOVEMBER	14.0	2.8	10.1	183.4	49.1
DECEMBER	13.0	-0.8	7.3	118.0	45.7

TOTAL 1112.1 1570.1

MEAN DAILY MAX. 14.3°C
MEAN DAILY MIN. 8.3°C
MEAN DAILY TEMP. 11.3°C
RAIN DAYS 248



CLIVE ALLEN - NORTHWOOD, MIDDLESEX

January - This was the driest January in Northwood since records began in 1959. On the 26th the pressure was 1049mb, the highest recorded since 16 February 1959 and 7 February 1960. With the settled weather there were a greater number of foggy days than usual. For the first eight days of the month temperatures were well above average. After that they were about normal so the mean temperatures were only a little above the long-term average.

February - February was much milder than in 1991 although temperatures were only a little above the long-term average. Rainfall (20.1mm) was about half the average making it the third consecutive month with totals well below normal.

Winter (Dec. 1991-Feb. 1992) - This was a milder winter than last year with temperatures only a little above average. Only a few flakes of sleet or snow were seen and none lying. There has been much more fog than usual. With only 52.2mm this was the driest winter since records began. The previous driest was winter '63-'64 when there was 60.2mm.

March - A mild month with the mean temperature 1.6° above the thirty year average. At 41.8mm the rainfall total was only 85 of the ten year average.

April - This was the mildest April since 1987 and the first month with above average rainfall since November 1991.

May - The warmest May since records began. A fine, sunny and very warm spell from 13th-27th gave several days of unbroken sunshine. For 8 days between 19th and 26th the maximum temperature exceeded 24.5°C.

Spring (Mar.-May) - The warmest spring since records began with the mean temperature (10.6°C) some 1.5° above the ten year average.

June - This was the warmest June since 1976 and the driest since 1983. The 29th was the hottest June day since 1986.

July - A wet month with 162 % of the average rainfall. A thunderstorm on the 20th gave 33.1mm of rain in one hour. Mean temperatures were about average.

August - The coolest August since 1988 with the minimum temperature on the 31st (7°C) being the coolest August night since 1986. This was also the wettest August since 1986 with 193% of the 10 year average rainfall.

Summer (June-Aug.) - This was the wettest summer since 1987 with several vivid thunderstorms but with the highest mean night minimum since 1983.

September - The maximum temperature over the first week was as much as 4.3°C below the five year average for early September. The 22nd, with 75.1mm of rain, was the wettest September day since records began in 1959 and this was the wettest September since 1975, indeed, the wettest of any month since December 1989.

October - This was the coldest October since 1974 and the 15th was the coolest October day since 1985. The 16th saw the first October air frost since 1987 and the total of three air frosts by the end of the month was the highest since 1980.

November - The wettest November since 1974 and the mildest since 1986.

Autumn (Sept.-Nov.) - This was the coolest autumn since 1974 and the wettest since 1984 with 163% of the 10 year average.

December - The coldest December since 1981 but the 2nd was the warmest December day since 1987.

This was the wettest year since 1987.

ANNUAL STATISTICS

MONTH	AIR TEMP°C			RAINFALL MM	RAIN DAYS	SNOW LYING DAYS
	HIGHEST MAX	LOWEST MIN	MEAN TEMP			
JANUARY	12.5	-4.9	4.2	16.3	9	0
FEBRUARY	14.0	-3.0	5.7	20.1	8	0
MARCH	15.0	0.7	7.9	41.8	18	0
APRIL	18.0	0.0	9.3	57.7	14	0
MAY	27.0	3.4	14.6	90.0	9	0
JUNE	28.9	7.5	16.4	26.5	8	0
JULY	27.8	9.5	17.5	75.5	14	0
AUGUST	26.9	7.0	16.6	88.4	16	0
SEPTEMBER	22.6	5.4	14.0	110.3	16	0
OCTOBER	16.7	-1.7	8.2	63.1	12	0
NOVEMBER	16.0	-1.9	7.9	111.6	18	0
DECEMBER	13.6	-5.0	4.2	39.4	11	0

TOTAL 740.7 153 0

MEANS
MEAN DAILY MAX. 14.2°C
MEAN DAILY MIN. 6.9°C
MEAN DAILY TEMP. 10.5°C

DAYS WITH FOG AT 0900 GMT 14
DAYS WITH THUNDER 10

EXTREMES
HOTTEST DAY 28.9°C 29th JUNE
COLDEST NIGHT -5.0°C 30th DECEMBER
WETTEST DAY 75.1mm 22nd SEPTEMBER



JANE MEAD - MERRIST WOOD COLLEGE, SURREY

ANNUAL STATISTICS

MONTH	AIR TEMP°C			RAINFALL MM	SUN HOURS
	HIGHEST MAX	LOWEST MIN	MEAN TEMP		
JANUARY	13.0	-8.8	3.6	16.3	31.9
FEBRUARY	13.7	-6.5	5.1	24.5	58.0
MARCH	14.9	-1.8	7.5	48.15	60.0
APRIL	17.8	-2.2	8.5	70.9	121.5
MAY	26.5	0.7	14.1	33.4	222.9
JUNE	28.8	5.9	15.7	29.06	102.5
(SUNSHINE SPHERE STOLEN 20th JUNE)					
JULY	26.4	6.1	16.9	56.0	
AUGUST	27.0	5.9	16.5	86.5	148.8
SEPTEMBER	22.3	4.3	13.7	69.6	117.6
OCTOBER	17.2	-2.5	7.9	58.2	101.9
NOVEMBER	16.2	-3.0	7.9	104.3	58.3
DECEMBER	12.8	-7.9	3.4	57.9	37.1

TOTAL 654.81

EXTREMES
HOTTEST DAY 28.8°C 29th JUNE
COLDEST NIGHT -8.8°C 24th JANUARY
WETTEST DAY 33.0mm 22nd SEPTEMBER
SUNNIEST DAY 13.7hrs 13th JUNE (NO READINGS 20 JUNE - 1 AUGUST)



ANDY ROYAL - BROOMS BARN, SUFFOLK

ANNUAL STATISTICS

MONTH	AIR TEMP°C			RAINFALL MM	RAIN DAYS	SUN HOURS
	HIGHEST MAX	LOWEST MIN	MEAN TEMP			
JANUARY	12.2	-4.6	3.7	50.0	8	58.0
FEBRUARY	14.1	-2.6	5.3	14.5	12	62.6
MARCH	15.2	1.1	7.4	68.1	19	73.4
APRIL	16.9	-0.2	8.7	45.8	13	124.4
MAY	26.3	3.2	13.7	62.5	12	277.4
JUNE	28.6	6.7	15.9	30.6	8	229.6
JULY	26.3	8.9	17.3	50.0	13	171.5
AUGUST	27.4	7.6	16.6	56.6	15	178.9
SEPTEMBER	22.7	5.9	14.0	99.6	14	147.1
OCTOBER	16.9	0.3	8.1	76.9	16	103.3
NOVEMBER	15.9	-2.1	7.4	79.2	17	65.6
DECEMBER	13.4	-4.1	3.9	40.1	14	53.2
TOTAL				673.9	161	1545.0
EXTREMES						
HOTTEST DAY	28.6°C		29th JUNE			
COLDEST NIGHT	-4.6°C		22nd JANUARY			
WETTEST DAY	41.5mm		22nd SEPTEMBER			
SUNNIEST DAY	15.0hrs		14th JUNE			

MR JOHNSON - LEVINGTON PLC RESEARCH STATION, SUFFOLK

ANNUAL STATISTICS

MONTH	AIR TEMP°C			RAINFALL MM	RAIN DAYS	SNOW LYING DAYS	SUN HOURS
	HIGHEST MAX	LOWEST MIN	MEAN TEMP				
JANUARY	12.1	-4.5	4.5	30.0	7	0	69.0
FEBRUARY	13.1	-2.9	5.3	13.6	11	0	72.9
MARCH	15.0	-1.2	7.5	59.6	21	0	77.1
APRIL	17.7	-0.4	8.9	59.7	14	0	129.0
MAY	26.5	4.3	14.0	34.8	7	0	280.3
JUNE	27.5	7.0	16.2	47.4	7	0	258.8
JULY	24.7	9.7	17.7	68.0	10	0	198.0
AUGUST	28.0	7.0	17.3	55.2	12	0	175.2
SEPTEMBER	22.8	5.5	14.6	47.0	10	0	149.8
OCTOBER	16.7	0.2	8.9	67.1	13	0	134.3
NOVEMBER	16.3	-2.7	7.8	75.8	16	0	72.8
DECEMBER	12.5	-4.8	4.5	29.0	11	0	48.7
TOTAL				587.2	139		1665.9
EXTREMES							
HOTTEST DAY	28.0°C		1st AUGUST				
COLDEST NIGHT	-4.8°C		31st DECEMBER				

DR TIM BURT & MARIA SHAHGEDANOVA - RADCLIFFE MET. STATION, OXFORD

January - The gloomy weather at the end of December continued in early January, giving 9 days without sunshine. The latter part of the month was dominated by cold, foggy anticyclonic weather. It was also a rather dry month, with the exception of four wet days in the middle of the month, though Oxford missed the heavy rain which fell further north and caused the Cherwell to flood.

February - This was a warm month, though not exceptionally so. It was also a dry month but it was not a sunny one and there was one more day of fog than expected.

Winter - For the winter as a whole, mean air temperature was just a little above normal, cold weather in December and January offsetting the mild February. It was the 7th driest winter in 225 years with only 68.3mm of rain compared with the average of 147.7mm.

March - A mild month, 18th equal warmest in 178 years. 24 'rain days' made it the equal 4th highest since 1881. There was little sunshine, being the 12th dullest March in 112 years.

April - This was very much an 'average' month.

May - After a very dry period lasting most of the month, the last 4

days were remarkably wet, with 15.4mm on the 28th and 25.2mm on the 29th, the largest 2-day total since 13/14th December 1889. Notwithstanding these welcome amounts, the rainfall deficit remains large: 4 year totals have not been so low since 1899-1903 and 1889-1893. Only the droughts of 1782-1789 and 1799-1806 have been more prolonged and severe in the Oxford region. Mean air temperatures were the highest since 1848 and the mean maximum was the equal highest since 1922.

June - Like May, June ended wet and gloomy, though the rest of the month had been very warm and quite sunny. It was the equal 13th warmest June since 1815 and the warmest since 1982. It was sunnier than normal and rainfall was below average.

July - A little warmer than normal with maximum temperatures a little below average and minimums well above. Sunshine was a little below normal and rainfall a little above.

August - For the 7th month in a row mean air temperatures were above average but it was the coolest August since 1986. This was also a wet month being 15th wettest since 1767 and the worst since 1986.

Summer - This was warmer but wetter and less sunny than 1991 although 1988 was worse.

September - The 27th wettest September since 1767. Maximum temperatures were a little below average but minimums were higher and there was a little more sunshine than normal.

October - This was the 17th coldest since 1815 and the coldest since 1974. Rainfall was a little above average.

November - The 14th wettest since 1767 and the wettest since 1970. Temperatures were above average and sunshine was normal for the time of year.

December - Rainfall total was just below normal with no significant falls after the 19th. This was a cool month and the 23 ground and 11 air frosts recorded were above average. Sunshine hours were about average.

ANNUAL STATISTICS

MONTH	AIR TEMP°C			RAINFALL MM	RAIN DAYS	SNOW LYING DAYS	SUN HOURS
	HIGHEST MAX	LOWEST MIN	MEAN TEMP				
JANUARY	12.2	-5.6	3.5	30.4	9	0	46.8
FEBRUARY	14.1	-3.5	5.2	22.0	10	1	67.2
MARCH	14.7	-1.4	7.5	47.7	24	0	73.3
APRIL	18.0	-0.4	9.1	57.7	15	0	139.2
MAY	26.1	3.4	14.1	62.2	11	0	262.7
JUNE	28.7	6.7	16.4	43.4	8	0	214.2
JULY	26.9	9.3	17.0	70.1	16	0	164.0
AUGUST	25.2	7.2	16.2	108.9	18	0	173.6
SEPTEMBER	22.0	6.6	13.8	108.0	18	0	120.3
OCTOBER	16.1	-0.5	7.9	75.7	17	0	101.3
NOVEMBER	15.8	0.2	7.6	119.9	22	0	61.5
DECEMBER	13.2	-6.5	3.8	50.7	13	0	47.2
TOTAL				796.7	181	1	1471.3
AVERAGES				640.5			1493.9
MEANS							
MEAN DAILY MAX.	14.0°C						
MEAN DAILY MIN.	6.9°C						
MEAN DAILY TEMP.	10.2°C						
DAYS WITH FOG AT 0900							15
DAYS WITH AIR FROST							36
EXTREMES							
HOTTEST DAY	28.7°C		29th JUNE				
COLDEST NIGHT	-6.5°C		30th DECEMBER				
WETTEST DAY	41.2mm		22nd SEPTEMBER				

C G ROBERTS - HALESOWEN CLIMATE STATION, W. MIDLANDS

January - Mean air temperatures down by 0.3 to 3.2°C. Eight cold and one very cold day with 13 air and 16 ground frosts. Sunshine was half the average with 29 hours and, with 20 sunless days, this was the dullest January since 1970. Rainfall was 16 above average and 42.2mm fell in 20 hours on 8th giving the wettest January day on record.

February - Temperatures up on the average with a mean maximum of 8.8°C and with only 7 air frosts. Sunshine was up by 8 hours on the 30 year mean with only 9 sunless days. A dry month with only

51% of normal rainfall and only 16 rain days.

March - Considerably warmer than usual with the mean daily temperature of 7.1°C being 1.7°C up on the average. Only 2 air and 12 ground frosts recorded. Sunshine was down by 29 hours to 73 hours on the average with 6 sunless days - the dullest March since 1984. Rainfall was near average with 57.9mm and there were 3 incidences of snow or sleet.

April - Temperatures were near average, ranging from 17.6°C to -2.4°C, but with only half the expected air frosts. Sunshine marginally down with 4 sunless days. Below average rainfall but with 5 more rain days than customary.

May - Two temperature records were broken - a warmest mean daily temperature of 13.7°C (1970 13.4°C) and a mean maximum of 19.6°C (1989 19.5°C). Four days were 'hot' with a maximum above 25°C. This was also the sunniest May on record with 257.8 hours (1989 256.2 hours) and rainfall was about average at 78.1mm although with severe thunderstorms at the end of the month.

June - Both the mean temperature (16.1°C) and the mean maximum (21.7°C) were the second highest on record. Sunshine was 24% above normal with 227.4 hours and only 3 sunless days. Rainfall was down on average with 44mm. There was a dry spell of 20 days from 9th to 28th inc., the bulk of the rain falling in the final two days of the month.

July - Temperatures were about average but with 7 sunless days this was the dullest July since records began. Sunshine was 90% of normal with 164.1 hours. Rainfall (93mm) was 70% above the average with 18 rain days.

August - The mean maximum of 22.9°C was 3.6°C below the 30 year average giving the coolest August since 1988. Sunshine was marginally above the normal at 174.6 hours with only 2 sunless days. Rainfall was 74 % above the average with 127mm which gave the 5th wettest August on record. Rain fell on 20 days, the worst for 10 years and 6th worst on record.

September - Temperatures near normal. The sunshine total was below average with 122.1 hours, the 5 sunless days being 50% worse than average. Rainfall (61.4mm) was a little above average but the 24 rain days made this the equal 3rd wettest September on record. Twice the normal incidence of fog.

October - The coldest on record with a mean daily temperature of 7.3°C and a record of 4 air frosts with the 2nd worst number of ground frosts at 14. Sunshine was marginally below the 30 year average at 87 hours with 9 sunless days being 45% worse than usual. Slightly wetter than usual with 73.3mm and 16 rain days.

November - Slightly warmer than average and 11 ground frosts with 1 air frost were the lowest incidences for 8 years. Sunshine was only marginally below average with 61 hours though the 14 sunless days were almost 30 % above average. The wettest November since 1984 with 107mm and the 7th wettest on record with only 12 dry days.

December - A cold and frosty month. Mean daily temperatures (3.2°C), down by 1.1°C, were the worst for 11 years and 8th lowest on record. -1°C maximum on 29th was the first sub-zero December maximum since 1985. Rainfall a little up on normal with the fall of 31.2mm on 1st being the highest since 1979 and making this the 6th wettest December day on record. No snow or sleet reported, only the 6th occasion since 1956.



S W JACKSON - BABLAKE, COVENTRY

January - The year began wet and mild but on the 8th the mild spell ended with the wettest January day since 1927. There followed a three week long cold spell with severe night frosts and frequent fog. Some 90% of the rainfall fell in just five days and this was the driest January since 1989. There were 19 sunless days making this the dullest January since 1981.

February - This was the first dry and mild February since 1973 and the driest since 1986. Sunshine levels, though average for the region, fell well below the high totals of recent years. This was the foggiest February since 1975.

Winter 1991-1992 - The winter was warmer than average but, unusually, the driest since 1975-76. Only 10 winters have been drier since 1886. Unfortunately it was rather dull with the lowest winter

sunshine total since 1977-78.

March - The dullest March since 1984 and the second dullest since 1894. For the third year running March was milder than average with just 1 air frost all month.

April - Another mild, frost free month and the first without an air frost since 1987. 43% of the rainfall fell on the 14th as we recorded the driest April since 1990 and the dullest since 1989.

May - This was the 5th May in succession with above average temperatures and the warmest ever since 1892. It is now 8 years since we had a frost in May. The maximum temperature of 26.9°C gave us the warmest May day since 1953. 73% of the monthly rainfall total fell in the last 3 days and the 25.5mm which fell on the 28th gave the wettest May day since 1967. This was the wettest May since 1986 but the sunniest on record with 151% of average sunshine.

Spring - The warmest spring on record but the wettest since 1989.

June - The warmest June on record, equal with 1893 and 1976. There were 18 successive rain free days and, until the last day of the month, it was the driest since 1975.

July - This was the wettest July since 1958 with 111.2mm, more than double the average for the region. This is the 2nd year running that July rainfall exceeded 100mm.

August - The coolest August since 1988 and only 4 days were completely dry. Rainfall was 77% above normal and this was the dullest month, for the time of year, since 1987.

Summer - This was a summer without a "heatwave" despite June being the warmest on record. 60 days registered maximums above 20°C but only three exceeded 26°C. It was the coldest July and August since 1988 and the wettest since 1939.

September - A noticeably cool and wet month with only 8 rain-free days. The dullest September since 1977 and the foggiest since 1976.

October - This was the coldest October since 1919 with the coldest October day since 1964 and the most ground frosts (17) since 1919. Rainfall was 36% above average.

November - The mildest November since 1986 but the wettest since 1970.

Autumn - This was the coldest autumn since 1976 with the highest number of ground frosts since 1979. It was the wettest autumn since 1980 with 38 days recording more than 1mm; the highest number since 1984. It was also the dullest autumn since 1984.

December - Although mild at first this turned out to be the coldest December, with the coldest Christmas period, since 1981. It was the first month with below average rainfall since June.

ANNUAL STATISTICS

MONTH	AIR TEMP°C			RAINFALL WET		SUNSHINE
	HIGHEST MAX	LOWEST MIN	MEAN TEMP	MM	DAYS	HOURS
JANUARY	12.2	-5.1	3.7	55.5	5	42.2
FEBRUARY	13.8	-2.4	5.6	20.1	7	63.5
MARCH	15.7	-1.1	7.7	53.9	14	67.5
APRIL	17.8	0.2	9.3	48.3	10	130.8
MAY	26.9	1.6	14.3	68.7	6	269.2
JUNE	28.8	7.9	16.7	31.9	5	199.6
JULY	26.5	8.4	16.9	111.2	12	160.8
AUGUST	24.5	5.8	16.0	119.0	16	182.1
SEPTEMBER	22.4	4.6	13.7	64.6	13	109.9
OCTOBER	16.5	-1.9	7.7	72.9	11	100.1
NOVEMBER	15.0	-2.4	7.1	115.0	14	62.9
DECEMBER	12.8	-6.5	3.3	58.6	9	41.0

TOTAL 819.7 122 1429.6

30 YEAR AVERAGE 656 112

MEANS

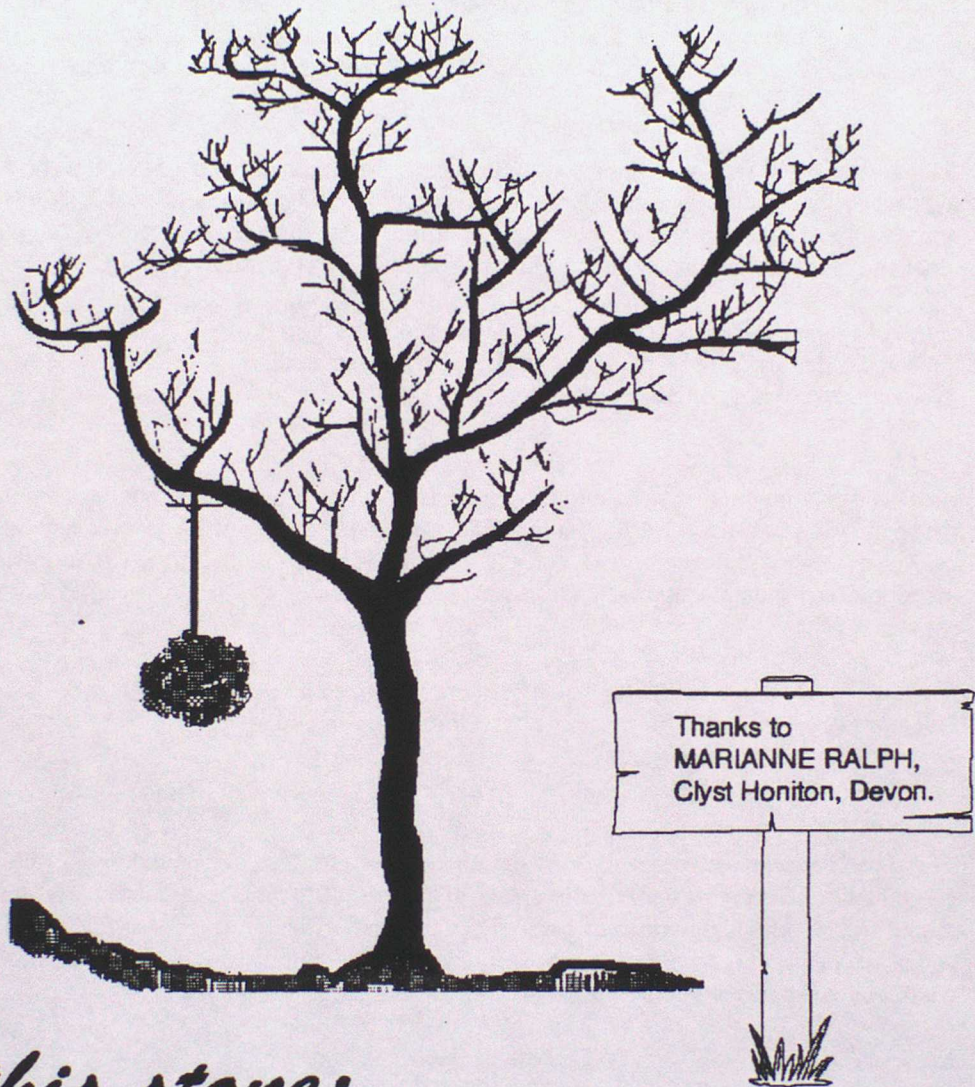
MEAN DAILY MAX. 13.9°C
MEAN DAILY MIN. 6.3°C
MEAN DAILY TEMP. 10.1°C

DAYS WITH FOG AT 0900 GMT 12
DAYS WITH THUNDER 9

EXTREMES

HOTTEST DAY 28.8°C 29th JUNE
COLDEST NIGHT -6.5°C 30th DECEMBER
WETTEST DAY 33.2mm 13th JULY

The Irish Weather Stone



If this stone:

*Casts a Shadow
Doesn't cast a Shadow
Is Wet
Is Dry
Is White
Is Swinging
Is Hot
Is Cold
Is Jumping*

*it's SUNNY
it's CLOUDY
it's RAINING
it's NOT
it's SNOWING
it's WINDY
it's HOT
it's COLD
it's an EARTHQUAKE.*

Annual Weather Summary 1992

January

The first week was mild and breezy in almost all parts, followed by two very wet days with some snow in Scotland. Then the weather changed and became much drier, with persistent fog and frost, first in one area, then another, for the remainder of the month. The result was a cold month in those relatively low-lying areas prone to freezing fog, but an average or mild one everywhere else. There was little snow.

Highest Temperature: 15.2 °C at Moyala Waterworks (Londonderry, Northern Ireland) on 2nd.

Lowest Temperature (Year's Lowest): -12.3 °C at Barbourne (Hereford & Worcs) on 23rd.

Wettest Day (Year's Wettest): 120 mm at Inverinan Mor (Strathclyde) & Tyndrum (Central) on 2nd.

February

January's fog and frost were swept away by increasing winds at the beginning of the month, but settled weather was never far from the south of Britain. As a result it was a dry, mild month in most parts, though there was more rain in Scotland and Northern Ireland. However, almost the only snow of the winter fell in many parts of Scotland, northern England and the Midlands on the 17th and 18th.

Highest Temperature: 15.7 °C at Elmstone (Kent) on 29th.

Lowest Temperature: -11.4 °C at Kindrogan (Tayside) on 19th.

Wettest Day: 87 mm at Kinlochewe (Highland) on 21st.

March

As a change from the first two months of the year, this was a wet month, but once again it was mild, especially in the south and south-west. North-east Scotland, the Orkneys and Shetlands, however, had a brief, but very severe, cold snap around mid-month with considerable snow, which drifted in the strong winds; with this short, local exception, the month was characterized by periods of wet and windy weather interspersed by sunshine and showers.

Highest Temperature: 18.2 °C at Great Malvern (Hereford & Worcs) on 16th.

Lowest Temperature: -9.5 °C at Leith Hall (Grampian) on 14th.

Wettest Day: 95 mm at Nunraw Abbey (Lothian) on 31st.

April

The second successive warm and wet month in most places, except possibly in parts of Scotland, April saw a continuation of the very unsettled weather of March with some particularly wet days near the middle of the month in several widely-scattered parts of the country. Although there was further widespread rain towards the end of the month there were also some early foretastes of summer: for example, General Election Day, which was warm and virtually cloudless throughout over most of England and Wales.

Highest Temperature: 20.3 °C at Folkestone (Kent) on 18th.

Lowest Temperature: -5.3 °C at Santon Downham (Norfolk) on 1st.

Wettest Day: 58 mm at Newcastle (Tyne & Wear) on 1st.

May

This was one of the warmest Mays on record, but rainfall amounts were near normal for the first time since 1988. Although the month started changeable with rain or showers in many places, with Saturday the 9th being a very wet day, especially in England and Wales, by the 13th summer had begun with temperatures well above normal in most parts for the rest of the month. Ten days of this spell were virtually rainless everywhere, but there were widespread thundery outbreaks on several days during the last week.

Highest Temperature: 29.5 °C at Barbourne (Hereford & Worcs) on 20th.

Lowest Temperature: -4.0 °C at Kindrogan (Tayside) on 10th.

Wettest Day: 71 mm at Machynlleth (Powys) on 11th.

June

This was another near record breaking month as regards warmth. The third week was relatively cool, whilst there were thunderstorms near the beginning and towards the end of the month. Although there were some very heavy, but localized rainfalls in some places early in the month, as a whole it was relatively dry, unlike May. However, many places away from the North Sea coast or the Western Isles had a great deal of superb summer weather this month.

Highest Temperature (Year's Highest): 30.3 °C at Malvern (Hereford & Worcs) on 29th.

Lowest Temperature: 0.0 °C at Glenlivet (Grampian) on 17th

Wettest Day: 65 mm at St Mary's (Scilly Isles) on 3rd.

July

The weather generally continued warmer than normal, but soon broke down into a much more changeable type. Result - the wettest July for five years in many parts of the country. Although the first few days were wet, the real change did not come until the 10th, after which successive bands of breezy wet weather crossed the country. Despite the rain, temperatures remained relatively high and, in the southeast, there were several very warm, humid days and nights.

Highest Temperature: 28.9 °C at Northolt (London) on 31st.

Lowest Temperature: -0.5 °C at Kindrogan (Tayside) on 2nd

Wettest Day: 96 mm at Knockanrock (Highland) on 26th.

August

One of the wettest Augusts for a long while, and quite a contrast with last year. It was rather warm to start with, but there were a number of thunderstorms and local heavy rain as well. Then it became cooler and breezier, and although there were drier and brighter spells, rain was never far away. The month ended on a decidedly autumnal note with a very cool, wet and windy day on the 30th, and a Bank Holiday Monday that was little better.

Highest Temperature: 28.9 °C at Writtle (Essex) on 1st.

Lowest Temperature: -1.2 °C at Eskdalemuir (Dumfries & Galloway) on 29th.

Wettest Day: 71 mm at Presteigne (Powys) on 7th and at Aros (Strathclyde) on 30th

September

Unlike last year, September failed to live up to promises, and autumn continued the downward path begun in August. For much of the month successive belts of cloud and rain swept across the country from the west, and as a result rainfall totals were well above average over much of the United Kingdom. There were few respites from the rain and cool winds until, rather surprisingly, near the end of the month when temperatures rose considerably to give at least the south-eastern half of England three very warm days on which to recall the long lost summer.

Highest Temperature: 25.6 °C at Elmstone (Kent) on 28th.

Lowest Temperature: -3.5 °C at Lisnaskea (Fermanagh, Northern Ireland) on 25th.

Wettest Day: 89 mm at Bedford (Beds) on 22nd.

October

One of the coldest Octobers since the War in England and Wales began mild, wet and windy, but before long temperatures were falling everywhere. By the middle of the month there were snow showers over high ground in Scotland and northern England, and much of Britain had a frosty night or two; meanwhile, the south and south-east of England had heavy rain with scattered thunderstorms. Later, although temperatures remained low, it became much more stormy, particularly in the south, with gales and periods of rain, and significant snowfalls in the Scottish Highlands.

Highest Temperature: 18.4 °C at Aberdeen (Grampian) on 8th.

Lowest Temperature: -6.8 °C at Eskdalemuir (Dumfries & Galloway) on 19th.

Wettest Day: 99 mm at Knockanrock (Highland) on 18th.

November

This was another changeable and very wet month with quite a bit of wind, especially in the north and west of Britain, though the first week was relatively dry in the southeast. It was also a very mild month - in some places it was actually warmer than October, a very rare event. Of mists and mellow fruitfulness there was little sign - at least, there was hardly any mist or fog.

Highest Temperature: 18.5 °C at Torquay (Devon) on 6th.

Lowest Temperature: -7.0 °C at Dalwhinnie (Highland) on 14th.

Wettest Day: 62 mm at Trawsfynydd (Gwynedd) on 22nd.

December

The year's final month carried on where November left off - mild, wet and windy, though the second week was drier. There was no sign this year of the persistent fog and frost which was such a feature of the weather of December 1991. As for snow - although at the time of writing many parts of southern Britain remained snow free, the Scottish Highlands had already had plenty and the skiing season there had been under way for several weeks.

Highest Temperature: 14.2 °C at Heathrow Airport (London) on 2nd.

Lowest Temperature: -12.1 °C at Aviemore (Grampian) on 21st.

Wettest Day: 672 mm at Shap (Cumbria) on 1st.

Our thanks goes to Rod Davis of The Met. Office Standard Products Group (PSP) for providing the Annual Summary.

S H O R T S

THESE BOOTS

Mr Melville-Hayes has been observing at Clacton for 13 years. He walks to the met. station every day, clocking up 50 miles every week, a total of 33,800 miles! He has now revealed, after extensive study, that a pair of boots will last for 2,700 miles!

THE FOX'S TAIL

The perils of country life have been brought home to Phil Page, the relief warden and observer at English Nature's Yarnar Wood in Devon. While he was recording the observation a cheeky fox cub crept out from the bushes and took his grass minimum thermometer.

Phil heard what he thought was a rabbit in the bracken. Then a little fox cub trotted out, walked around him, then started to lick the thermometer. Phil says "I think he must have been on his first sortie for food. He was trying everything to see if it was edible. He had no fear."

The fox picked up the thermometer, dropped it, picked it up again and then "with a mischievous glint in his eye" ran off with it. Phil gave chase and the cub dropped his haul, undamaged, in the undergrowth before making off for good. "I must have pursued him for 40 yards before he dropped the thermometer" said Phil.

(Taken from an article in the Torquay Herald and Express)

